

# Toward an Ecology of Learning from Experience: A Model for Further Research

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# **Toward an Ecology of Learning from Experience: A Model for Further Research**

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**Abstract:** This emergent learning model derived from a narrative inquiry into epistemological processes governing institutional transformation. Our collaborative learning journey unfolded as a collection of organizational learning tales told by a team of nine college leaders. This paper and model describe the form of collective learning that preceded each systemic change.

Triggering this study were my desires to understand the contribution of narrative processes to learning and change and to answer a question raised by the American Council on Education (ACE): How can higher education learn to change? Set in the context of a large, multi-campus southeastern U.S. community college, the study focused on narratives constructed by the Leadership Team to understand their context, learn from experience, and reach decisions that led to transforming their culture from teaching-centered to more learning-centered. The tales tell how and why the leaders used narratives to challenge others to respond to turbulent circumstances. Collaboration led to surfacing narrative processes, to examining collective learning, and to developing three learning models. The model in this paper describes the form of collective learning that preceded each systemic change and calls for research in other contexts.

## **Problem Statement, Purpose of the Study, and Research Questions**

Given challenges of “technology, globalization, accelerating competition, the explosion of knowledge, and the increasingly diverse nature of our society” (Eckel, Hill, & Green, 2001), ACE advocated that educators change in ways that respected the values of the academy and met higher education’s organizational challenges (Eckel, Hill, & Green, 1998). Boyer (1990) observed narrow interpretation of faculty roles; academy participants had not been sufficiently involved in seeking solutions to its problems (Eckel, Hill & Green, 1998; Revelas & Razik, 1998). Potential solutions often overlooked their lived experience and the language to express it as promising sources of learning. The problem was that higher education had not learned how to change in response to cultural volatility.

The purpose of this study was to examine the contribution of narrative processes to learning and change in an organizational setting. Adult education (AE) literature includes limited research on narrative related to learning and change. As I became familiar with higher education reform issues and examined my own AE practice, I framed a set of questions meant to shed light on what I was beginning to perceive as the narrative aspect of learning and transforming.

My primary research question was how professionals, working individually and in groups in a contemporary organizational context, used narrative processes. As corollaries to the question, I wanted to understand what kinds of narratives they used, what conditions influenced their use of narratives, and how and to what extent they perceived that narratives contributed to their learning and capacity to change. To fill an apparent void in the literature, I defined narrative processes (NPs) as “hermeneutic processes of relational thinking that foster the emergence of story and draw upon context and difference as interpretative means for learning from lived experience” (Pfahl, 2003, p. 508). NPs are one of the process attributes or “inherent

characteristics of thought and action” (Pfahl, 2003, p. 509) that emerged in two forms during analysis: process dynamics (PDs) and motivational dynamics (MDs). PDs are “values-driven forces that characterize thought and action, influence process outcomes, and contribute to whether and how what happens will influence learning and transforming” (Pfahl, 2003, p. 509). MDs are “values-driven forces that energize or deter individuals and groups to participate or not in collaborative processes of learning and transforming” (Pfahl, 2003, p. 508).

### **Conceptual Framework**

Experiential learning theory (ELT) focuses primarily on critical thinking at the relative neglect of narrative. Two primary bodies of theory provided the foundation for this study: experiential learning theory (ELT), and narrative theory (NT). Since both learning and narrative require action, I adopted a functional, action perspective to interpret the literature and data. ELT describes how we learn from prior experience by reflecting upon experience to interpret its meaning and act upon what we have learned, positioning ourselves for change. ELT links to NT through reflection that has potential for learning and action that can lead to change. Narrative processes are reflective in nature. To examine further the dialectic between learning and narrative, a dialectic less understood than the dialectic between learning and experience, I studied a composite of learning and narrative related to narrative inquiry (NI), the methodology.

Reading across the two bodies of theory, along with NI, I found the three bodies of theory interrelated on at least ten levels: relationship, balance, action, social nature, climate, reciprocity, informality, context, and self-awareness. To link them I built upon Enkelmeyer & Brown’s (1998) learning principles for higher education contexts, including the research site.

Learning is about making connections (Cross, 1999) and questioning them. Narrative thinking is relational (Bruner, 1986), and establishing relationships is the essence of narrative. In this case, NI is the collaborative interaction between a researcher and participants as co-researchers (Clandinin & Connelly, 1998; Mishler, 1986). This compelling situation balances challenge and opportunity, encourages conceptualization and reflection, and enhances learning (Enkelmeyer & Brown, 1998). Narrative is a form of contemplation and reflection upon experience in a particular setting (Forster, 1927) that integrates reflection with the act of telling. NI balances multiple perspectives on the phenomenon under study to communicate meaning and achieve an interpretation characterized by lifelikeness and authenticity.

Learning is an active search for meaning, and narrative, an active process to order experience in meaningful ways (Bruner, 1990). Narrative, a root metaphor, shapes thought and directs the search for meaning (Sarbin, 1986b). In this case NI became a cumulative, developmental, and collaborative learning process. Narrative structure establishes a developmental frame: introduction, middle, and conclusion; integrates past, present and future; and relates individual interests to their socio-cultural context (Polkinghorne, 1988).

The social natures of each theory and attributes of NI contributed to collective learning within social contexts. Experience contributed to narrative, engaging tellers and listeners as social beings in collaborative learning within a community of learners (Bruner, 1986; Coles, 1989; Marsick, 1998; Reason & Hawkins, 1988). The social experience of this NI enhanced learning of the co-researchers (Clandinin & Connelly, 1991; Reason & Hawkins, 1998). The atmosphere or climate of its social contexts influenced actors, their actions, and interpretations of meaning (Iser, 1978). Settings, voices, actions, relationships, values, and other influences contributed to the climate of collaborative learning. Using narrative processes creates a narrative field of energy, motivating people to reflect and act in response to listening, telling, and learning.

Reciprocity characterizes learning, narrative, and NI. Sustained learning requires frequent feedback, practice, and opportunities for application to become more meaningful (Enklemeyer & Brown, 1998). Processes that encourage feedback clarify learning from new perspectives (Brookfield, 1995; Cell, 1984). Storying and restorying build future scenarios that engage teller and listener in reciprocal cycles of action and reflection (Belenkey, 1998; Brookfield, 1987, 1985, 1998; Marsick, 1998; Mezirow, 1991; Pfahl, 2003). NI requires reciprocity among human actors and between human action and its contexts. When storytelling is spontaneous, it offers informal learning opportunities, for narrative surfaces tacit knowledge (Polyani, 1966) and is the human way to organize experience and understand complexity (Bruner, 1986; Sarbin, 1986a).

Contexts and individual experience ground learning. Transferring learning to different contexts and connecting it to other information, values, and alternative viewpoints requires intentional effort. Likewise, the meaning of a story is localized and changed when a narrator confronts new information (Bruner, 1986; Iser, 1978). NI embraces social setting as inseparable from action and context (Boje, 1994; Czarniawaska, 1990). As a research methodology it works “in natural settings rather than in artificial laboratories” (Reason & Hawkins, 1988, p. 79).

Learning involves our ability to understand how we acquire knowledge, to develop learning strategies related to capacities and limitations, and to become more aware of various ways of knowing. Storytelling is one way learners reflect upon experience to become more self-aware of meaning and possibilities for changing behavior, ideas, feelings, and action in the cultural context of narrative iteration (Pfahl & Wiessner, 1997a, b). Participating in NI helps a learner understand better how knowledge is acquired (Polyani, 1958, 1966). It is a natural, human learning strategy, for narrative intelligence and the inclination to tell stories characterize all world cultures (Bruner, 1966; Sarbin, 1986a, b). These interrelationships in the literature among learning from experience, narrative, and NI informed research design and methodology.

### **Research Design and Methodology**

In this narrative inquiry I viewed research as dialogical and collaborative. “As interpreter, artist, and composer” (Price, 1999), I developed a multi-layered approach to data collection, analysis, and synthesis. NI supports a constructivist interpretation, interprets life experience as text, leads to conducting research as a collaborative learning process, and presents findings as story. Multiple data collection techniques examined the Learning-Centered Initiative, strengthened the study and provided “rich, thick data” (Patton, 1990), layered stories to report findings, and useful learning models: in-depth interview, the primary data collection method; observation; document review; and research journaling. The repertory of stories brought the meanings of the co-researchers’ individual stories into a broader context, transforming them and their interpretations of their stories in the process (Schaafsma, 1993).

More than 300 learning tales, centerpiece of analysis, led to three learning models, including this one. After piloting the interview protocol, participants returned to me to continue their stories. I then changed from one to three discontinuous interviews over a period of 18 months, spaced with time for transcription and for participants’ reflections upon interview texts prior to subsequent interviews. I played the roles of prompter, to elicit, to listen to, and to identify their stories; interpreter, to elicit their interpretations of the meanings of their stories; and analyst, to compare my interpretation of meaning for the purpose of identifying shared meaning that expanded individual interpretations. Storying and re-storying helped to (1) recover memory, (2) negotiate the present, (3) reconsider the possibilities of change (Clandinin & Connelly, 1991; Hones, 1997); and (4) change in response to our learning (Cell, 1984; Mezirow,

1991). In other words, it built what Clandinin & Connelly (1991) call a “process of growth” (p. 91).

Once transcribed and returned to participants, I used in vivo coding and themed the codes to identify PDs (how) and MDs (why). Identifying and naming patterns of action across the interviews surfaced data elements integrated as learning models. Applying Glassie’s (1982) concept of a “bid” (where a participant switches topical meaning in a text) helped differentiate tales as learning episodes or transformative narratives that documented change. Observations, document review, and participants’ input informed story writing and provided crosschecks to verify information. Once grouped into 31 thematic story clusters, I selected the three largest clusters to “layer” as composite narratives of different voices addressing a shared experience.

I developed and followed guidelines summarizing my interpretation of responsibilities of an ethical NI researcher: (1) Elicit, listen to, and respect voices of others; subjugate voice, values, and beliefs of self. (2) Analyze narrative texts critically in relationship to other data sources; identify discrepancies and conflicts from which to learn with participants. (3) Be aware that a researcher contributes to participants’ construction of reality and is not a passive recorder and reporter. (4) Develop a linguistic repertoire of open-ended prompts and questions to facilitate story flow and a storyteller’s (a) deconstruction of limiting structures, (b) flow of relational thinking, (c) use of multiple ways of knowing. (5) Become interested and engaged in narration, listening at an emotional level with sensitivity toward a narrator (Clandinin & Connelly, 1991, p. 7). (6) Respect the confidentiality of a narrator. Applying these guidelines contributed to the study’s “value, truthfulness and soundness” (Marshall & Rossman, 1995, p. 118).

### **Findings**

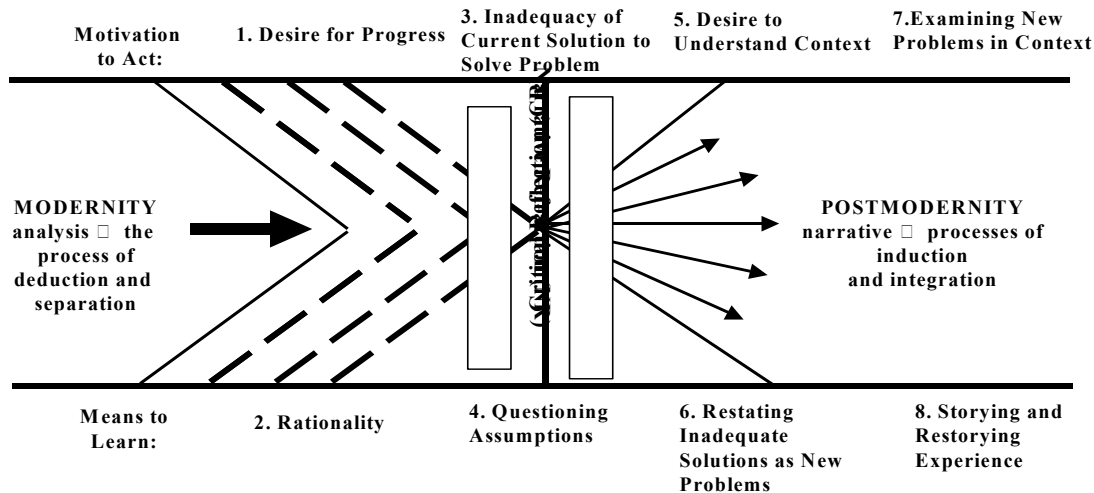
Learning to walk in the unknown gradually became the modus operandi for the Leadership Team and colleagues. They learned how they had bridged the gap between a teaching-centered culture and a more learning-centered culture by reading across the repertoire of stories to understand how and why they were able to enact systemic changes. Integrating analysis and narrative more intentionally enabled leaders to collaborate and model attitudes and values that advanced collective learning and change. Their modeling fueled dynamics that helped the college “learn its way out” (Finger & Berlaan, 1994) of traditional boundaries. Collective learning changed work norms. In fact, stories of informal or formal group learning experiences preceded every systemic change documented by the repertoire of OLTs. Identifying such patterns of action led to developing the following learning model of how and why they worked.

Analytical processes (APs) and narrative processes (NPs) each assume an epistemology of the nature and grounds of knowledge. APs, linear patterns of thought, follow rules of logical argument that convince us of truth and help us understand what is happening. A familiar pattern of analysis is to separate a subject into its logical components to understand the whole. Modern scientific progress has relied upon deductive processes, akin to viewing the world through a telephoto lens. NPs, on the other hand, rely upon inductive reasoning that acknowledges and values contextual elements. Narrative thinking encompasses hermeneutic processes that use story as a means for interpreting relationships and action. Integration, a dominant narrative pattern, creates informative narratives, viewing reality through a wide-angle lens. Differentiated from argument, story convinces us of lifelikeness or verisimilitude rather truth.

Figure 1 depicts elements of the model. Patterned movement from modern, convergent, analytical thinking, to postmodern, divergent, narrative thinking, prompted by different MDs to act, leads to selecting varied means to learn. Recursive movement enables holistic learning

through time, switching from telephoto lens to wide-angle lens, from linear analysis converging to a solution, to relational, integrative NPs prompted by different motivations and means to learn.

Figure 1. An Ecology of Learning from Experience: A Flow of Thought from Analytical to Narrative



In Figure 1, action is an integral part of life experience; critical reflection and narrative refraction, processes that lead to learning. Learning often leads to change in behavior, interpretation, autonomy, creativity, or any combination of the four types of change Cell (1984) identified. Within narrative cycles, action, reflection, and learning reoccur to prompt re-engagement in life experience as renewed enactment. Narration, a form of reflection differentiated as refraction since it requires using a wide-angle lens, brings its elements into a synergistic whole. As we re-initiate linguistic communication cycles of telling and listening in this way, we employ an ecology of learning to create a form of reciprocity for learning together.

### Discussion

Mutual trust among individuals and a capacity to trust dialogical processes were dominant conditions contributing to the development and continued refinement of the learning model. Trust enabled those in the research setting to communicate openly, to articulate a shared vision, to identify and act upon shared values, to welcome different voices, to evaluate alternatives. Theory and practice provided bases for the proposed model. “In contrast to our vast knowledge of how science and logical reasoning proceed, we know precious little in any formal sense about how to make good stories” (Bruner, 1986, p. 14) and use them toward learning purposes (Pfahl, 2003; Wiessner, 2001). This NI into the epistemological processes governing institutional transformation and other professional and personal experiences planted seeds for thinking about how and why we construct narratives to link APs and NPs in more intentional ways, particularly since using linguistic processes in narrative ways contributes to learning (Bruner, 1986). Like learning, narrative focuses on action of lived experience and engages us in reflection. In fact, “we tell ourselves stories in order to live” (Didion, 1979, p. 11), but, on the other hand, “People have forgotten how to tell a story”(Spielberg, in Rowes, 1979, p. 225). Contributing to this paradox are complexities of how we construct stories (Pfahl, 2003) and the kinds of stories adult educators tell (Wiessner, 2001). The model contributes to filling this void.

As this study progressed and we became more aware of the extent of using our own and others' narratives to advance learning about their culture, participants became more effective and responsive to its diversification and to the growing number of under-prepared students. They sought a more learning-centered culture "where learning is a collaborative process among learners who are all developmental regardless of authority or position" (Pfahl, 2003, p. 508).

### **Implications for Practice and Recommendations for Further Research**

This model depicts the process of narrative inquiry. It does not call for change in what higher education does, but rather change in how higher education acts. It describes how people within the research context learned by viewing their professional environment through different lenses. The model links two bodies of theory and provides a template for how adult educators can use NPs more intentionally to advance learning. Five assumptive changes under-gird the model and provide practice implications: (1) replace competition with collaboration, (2) focus on process, (3) eliminate power differentials, (4) adopt other ways of knowing, including integrating APs and NPs, (5) acknowledge choice rather than mandate as prerequisite to adult learning.

Research that grounds the model illustrates the power of using NPs, first intuitively without awareness, and later differentiating, naming, and using them with greater intentionality. Adult educators can foster conditions and practices to change and enrich learning environments to become more conducive to narrative processes. Building trust for collaboration, making connections, and acknowledging the teacher as learner and the learner as teacher help to surface tacit knowledge. Acknowledging and encouraging adult learners to employ both analytical and narrative thinking, to value their differences, and to integrate them contributes to more holistic learning to understand cultural diversity and multiple realities of lived experience.

Overall, there is need to develop a comprehensive pedagogy for narrative thinking to provide an intentional blueprint for teaching and applying relational thinking to complement the pedagogy of critical thinking. Conducting other NIs as in-depth ethnographic longitudinal studies to understand whether there is a hierarchy of NPs that develops over time could contribute to building pedagogy for narrative thinking. A narrative pedagogy would provide educators and students with a more balanced approach to learning, one that respects the inherent differences between analytical thinking and narrative thinking and values their complementary application.

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# Learning “Really Useful Knowledge:” Front-line Supervisors and Learning in Three Steel Mills

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**Abstract:** Employing cultural historical activity theory (CHAT) this paper investigated of how informal learning is experienced by front line supervisors as they negotiate their role between two competing agendas.

## Introduction

Child and Partridge (as cited in Dawson, 1991) argue that supervisory problems in industry are created by management through “an imbalance between authority and responsibility; a misunderstanding of what the job entails; poor remuneration; and an unwillingness to accept line supervisors as part of the management team (p. 36)” Front-line supervisors are considered corporation management but are located at the lowest corporate hierarchical position (Dawson, 1991; Heyel & Nance, 1984;). One author argues that front-line supervisors are either a necessary evil or just unnecessary (Dawson, 1991). However the perception of the front-line supervisor is held in a specific corporation, they do seem to have a duality of purpose and is one “who stands between the management of a business and the working force as a sort of connecting link (Cushman, 1938, p. 136). Their first purpose is they represent the union workers’ cares and concerns to management and the second purpose is they represent management’s policies to the union workers.

The purpose of this paper was to examine how front-line supervisors in three different steel mills learn and develop the “really useful [supervisory] knowledge,” to use Richard Johnson’s (1979) term, required to successfully function in their everyday work-life. Fundamental to his study, then, is an investigation of how informal learning is experienced by front line supervisors as they negotiate their role between two competing agendas, that of the union and that of management manifested in the shop-floor culture and global business realities.

When considering the history of “foreman/supervisor training” programs and associated literature discussing a foreman’s role (Dawson, 1991; Del Brocco & Sprague, 2000; Hayden, 1999; Heyel & Nance, 1984; Kincaid, 2003; Longenecker & Neubert, 2003), a common theme is they deliver instruction regarding rules, procedures, programs, safety, etc. Formally, they experience what Bateson (1972) argues as Learning I which is the acquired ‘correct’ response to a given context (pp. 287-292) and Learning II (pp. 292-301) which is the acquisition of the “deep-seated rules and patterns of behavior characteristic to the context itself” (Engeström, 2001). Through formal training programs and management re-enforcement, front-line supervisors “learn the ‘hidden curriculum’ of what it means to be” a front-line supervisor (p. 138). In essence, they are trained to understand their role as well as the correct and accepted response to some type of stimulus within each of the activity systems as well as the activity systems collectively working towards specific and combined objects and their possible combined outcomes mediated by the elements embedded in each activity system. But, to what extent does this transfer to the shop floor?



### Method and Data Collection

Cultural Historical Activity Theory (CHAT) (Engeström, 1987, 1997, 1999a, 1999b, 2001, 2004; Sawchuk, 2003) was used as the means by which to analyze and make sense of the data. As Lord & Sawchuk (2006) argue, “CHAT is a specific tradition of analyzing learning and human development that accounts for informal as well as formalized learning; consciously directed as well as tacit learning; individual as well as collective practice; material, organizational and cultural barriers and supports. This offers a systematic social analysis of learning throughout its full range of variation, but never loses sight of the deeply human face of human development.”

Critical ethnography using participant observation, semi-structured interviewing, and document inspection forms the basis of this study (Madison 2005; Carspecken 1996; Thomas, 1993). The authors of this study have established a strong working relation with the interviews and have in several cases worked with the frontline supervisors. The interviews consisted of a series of six open-ended, semi-structured interviews to illicit personal narratives. This method was chosen since it allows a dynamic interaction between the interviewer and the interviewee also informed by the work of Errante (2000) who renamed them as the historian and the narrator, respectively. The many dynamics and agendas at play during the course of an interview are significant since it was the goal of this paper to elicit oral narratives and life stories. Participation occurred over a six month period, twenty hours per week.

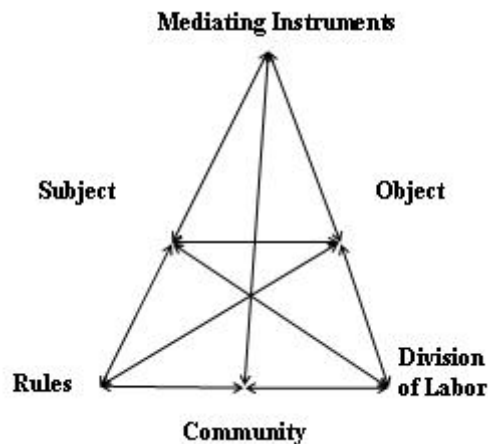


Figure 1: The Activity System

Shown in Figure 1 is the activity system diagram. For the purposes of this study, the specific components used were the subject, the rules, the mediating instruments, and the division of labor. The object is the group whose standpoint and agency will be used as the perspective through which the object and the different components will be viewed.

### Discussion

The no-win situation experienced daily on the shop-floor is characterized by Bateson (1972) in which he illustrates the conditions necessary that precipitate a double bind situation (206-207). In this situation, the front-line supervisor is confronted by contradictions rising from two, or more, diametrically opposed rules or mediating instruments or from a rule(s) diametrically opposed to a mediating instrument(s). Collectively, front-line supervisors began questioning the current mediating instruments and rules and the struggles experienced in the

division of labor in the form of interpretation and negotiation with their subordinates and superiors (as diagrammed in Figure 2 illustrated by the jagged lines). As Engeström (2004) states, “The activity system is constantly working through contradictions within and between its elements. In this sense, an activity system is a virtual disturbance- and innovation-producing machine.” It is the contradictions that drive the changes in an activity system, and in a network of activity systems, that lead to the creation of new knowledge and learning.

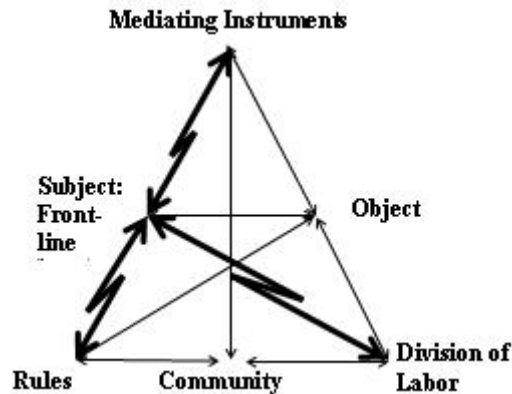


Figure 2: Contradictions in the Activity System

Rules and mediating instruments are developed in response to a given situation and, in many cases, without regard to all factors associated on the shop-floor environment and not inclusive of those whose job duties are engrossed in the shop-floor. These are exactly the factors the front-line supervisor must address and consider when negotiating their role. Engeström (2001) states that

It is a self-evident presupposition that the knowledge or skill to be acquired is itself stable and well defined. There is a competent ‘teacher’ who knows what is to be learned. The problem is that much of the most intriguing kinds of learning in work organizations violates this presupposition. People and organizations are all the time learning something that is not stable, not even defined or understood ahead of time. ... Standard learning theories have little to offer if one wants to understand these processes.” (pp. 137-138).

The interviews supported this insight. Although formal training was useful in administrative functions, something conceptually different was occurring regarding acquiring the knowledge needed to run the business on the shop-floor where numerous actions and processes happen simultaneously. Formal training becomes problematic when in practice due, in part, to multiple activity systems all influencing and impacting the rules and the mediating instruments; it became evident that the rules located in the production activity contradicted with the rules in the quality and/or the safety activity systems. When thinking about the network of activity systems and taking into account the agency of the front-line supervisors, collective questions began rising in regards to how to meet the required expectations placed upon them. Workplace observations revealed that, at times, the rules were subverted in light of getting the job done. The interviews revealed the front-line supervisors were able to “modify” existing mediating instruments and “fracture” the rules through a synthesis of their knowledge based on knowledge gained from their experiences on the shop floor working daily with the union members, input (requested and un-requested) from the union workers, interacting with

seasoned front-line supervisors, their daily life experiences outside the workplace, and familiarity with the equipment (tools). As Sawchuk (2003) stated, “What were needed were tacit skills, practical connections, and access to the knowledge hidden in the cracks and crevices in people’s lives in and beyond work” (p. 2) and he further states “What I saw was one’s knowing – even for the most experienced worker on the floor – depended upon ongoing integration with others” (p. 2). Livingstone & Sawchuk (2004, p. 61) re-enforce this through their collaboration in which they state “co-workers, predominantly through various informal networks, collaborate and construct a skills and knowledge ‘scaffold’ for greater individual and collective knowledgeability.” Although the rules may have been informed by practice, at least partially and at one point in time, what was not considered is the changing technology regarding production machinery, instrumental conditions, and product composition such that established rules and mediating instruments are no-longer fully viable to address and resolve for the contradictions that rise from this change. Engeström (2004) states “There is constant construction and renegotiation within the activity system. Coordination between different versions of the object must be achieved to ensure continuous operation. Tasks are reassigned and redivided, rules are bent and reinterpreted. ... rules may be questioned, reinterpreted and turned into new tools and objects.”

### **Conclusion**

Front-line supervisors often employ “ways of getting around” which may be considered a way of learning within the formal corporate hierarchy that is pragmatic and useful on the shop-floor but is not recognized or privileged, and sometimes reprimanded, by management. Many times, front-line supervisors may reject “formal procedures” and “follow a hunch” through their interpretation of the rules as well as their understanding of the mediating instruments. This seems to suggest that some extent of knowledge and understanding is gained from other experiences and contexts such as the shop floor while the front-line supervisors are in actual performance of their role, or even beyond the workplace, thus creating an internal conflict with formal procedures. Bateson (1972) discusses “contextual markers” in responding “to the ‘same’ stimulus differently in different contexts” (p. 289). Formal training gives “textbook” examples in content delivery but many variations and complexities exist in the work environment.

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